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PATENT

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Renee D. East
Date of signature and deposit - July 25, 2007

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of: Benjamin J. Parker et al	)	Group Art Unit: 2141
Serial No.: 10/034,012	)	Confirmation No.: 1871
Filed: 12/20/2001	)	Examiner: Kristie D. Shingles
For: Configuring Computer Network Communications In Response To Detected Firewalls	)	Attorney Docket: 1805(15817)

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REQUEST TO MAINTAIN APPEAL AND BRIEF ON APPEAL

Mail Stop Appeal Brief – Patents
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

In response to the reopened prosecution, Appellant hereby requests that the appeal be maintained under 37 CFR 41.39(b)(2). Appellant expresses its disappointment that the new ground of rejection was not identified at the time of the pre-appeal brief conference.

REAL PARTY IN INTEREST

The real party in interest in the present appeal is Sprint Communications Company L.P., assignee of the entire right, title, and interest in the present application.

RELATED APPEALS AND INTERFERENCES

There are no related appeals or interferences known to appellant, the appellant's legal representative, or assignee which will directly affect or be directly affected by or have a bearing on the Board's decision in this appeal.

STATUS OF CLAIMS

The status of the claims is as follows:

Claims allowed: none.

Claims objected to: none.

Claims rejected: 1, 3-12, 14, 15, and 17.

Claims withdrawn: none.

Claims canceled: 2, 13, and 16

The claims being appealed are: 1, 5, 8, 12, and 15.

STATUS OF AMENDMENTS

The request for reconsideration after final that was filed September 20, 2005, did not amend the claims. The claim amendments of the previous amendment filed February 24, 2005, were entered.

SUMMARY OF CLAIMED SUBJECT MATTER

The present invention relates to establishing a communication session (such as a video telephony call) between users connected to a computer network, and more specifically, to detecting the presence of firewalls connecting each user to the network and configuring the communication session so that network packets can be exchanged through whatever firewalls are present. A central server in the network allows two or more individual users to establish interactive connection sessions over the Internet without requiring overt knowledge of the other's IP address and without complicated configurations or set-ups. A calling user sends a request to the central server to establish a connection with a called user who has registered with the central server. The central server can either relay all network message packets between the users for the duration of a "call", or it may provide the IP addresses to the users so that they can exchange packets directly. Instituting a direct connection, however, may be impeded if the existing sessions include any firewalls. The invention detects the presence of a NAT firewall at the called user and if one is present but no NAT firewall is present at the calling user, then the roles of the parties' computers are dynamically reversed for establishing the network session between the two computers.

Claim 1 recites a method of connecting at least two users to exchange network packets via an internetwork (e.g., Users #1 and #2 in Figures 1 and 6), each user being addressable within the internetwork at a respective global address (page 2, lines 14-21). Some users of the internetwork are connected to the internetwork via a respective network address translation (NAT) firewall (page 3, lines 13-28). The method comprises the step of maintaining in a central server 13 coupled to the internetwork a database of registered users, the database including respective global addresses corresponding to the registered users (page 7, lines 18-29). A call request is received from a calling user to establish a connection to exchange network packets with a called user, at least the called user being a registered user (page 8, lines 3-10, and steps 28-30 in Figure 3). It is

detected whether a respective NAT firewall is in place between the called user and the internetwork (page 12, lines 1-3; page 12, line 25 to page 13, line 8; and step 50 in Figure 7). If a respective NAT firewall is not in place between the called user and the internetwork, then the called user's respective global address is transmitted to the calling user (page 12, lines 3-5 and step 51 in Figure 7), and the calling user establishes a network session for the connection with the called user by transmitting to the called user's respective global address (page 12, lines 5-7 and step 52 in Figure 7). If a respective NAT firewall is in place between the called user and the internetwork, then it is detected whether a respective NAT firewall is in place between the calling user and the internetwork (page 12, lines 10-11 and step 53 in Figure 7). If a respective NAT firewall is not in place between the calling user and the internetwork, then the calling user's respective global address is transmitted to the called user (page 12, lines 11-12 and step 54 in Figure 7), and the called user establishes a network session for the connection with the calling user by transmitting to the calling user's respective global address (page 12, lines 12-14 and step 55 in Figure 7).

Claim 5 depends from claim 4 and recites that the presence of a NAT firewall is detected after receiving respective activation messages, and that a database stores data indicating whether the respective NAT firewall is detected for each respective active user or not (page 7, line 22 to page 8, line 2; and Figure 8).

Claim 8 depends from claim 1 and recites that the respective NAT firewalls translate between a respective global address of a respective user and a respective local equipment address of the respective user, wherein each of the activation messages includes a respective local equipment address for a respective user (page 12, lines 23-25 and Figure 8). The firewall detecting step is comprised of comparing the respective global address and the respective local equipment address (page 12, lines 28-29), a NAT firewall being detected when the respective global address and the respective local equipment address do not match (page 13, lines 1-3).

Independent claim 12 recites a central server (13) coupled to an internetwork

providing a real-time, network interconnection service for enabling at least two users to exchange network packets via said internetwork (e.g., Users #1 and #2 in Figures 1 and 6). Each user is addressable within the internetwork at a respective global address (page 2, lines 14-21), and some users of the internetwork are connected to the internetwork via a respective network address translation (NAT) firewall (page 3, lines 13-28). The central server (13) comprises a programming sequence for maintaining a database of registered users, the database including respective global addresses corresponding to the registered users (page 7, lines 18-29). A call request is received from a calling user to establish a connection to exchange network packets with a called user, at least the called user being a registered user (page 8, lines 3-10, and steps 28-30 in Figure 3). It is detected whether a respective NAT firewall is in place between the called user and the internetwork (page 12, lines 1-3; page 12, line 25 to page 13, line 8; and step 50 in Figure 7. If a respective NAT firewall is not in place between the called user and the internetwork, then the called user's respective global address is transmitted to the calling user so that the calling user can establish a network session for the connection with the called user by transmitting directly to the called user's respective global address (page 12, lines 3-7; and steps 51-52 in Figure 7). If a respective NAT firewall is detected between the called user and the internetwork, then it is detected whether a respective NAT firewall is in place between the calling user and the internetwork (page 12, lines 10-11 and step 53 in Figure 7). If a respective NAT firewall is not in place between the calling user and the internetwork, then the calling user's respective global address is transmitted to the called user (page 12, lines 11-12 and step 54 in Figure 7), and the called user establishes a network session for the connection with the calling user by transmitting directly to the calling user's respective global address (page 12, lines 12-14 and step 55 in Figure 7).

Independent claim 15 recites server software for a real-time, network interconnection service for enabling at least two users to exchange network packets via an internetwork (e.g., Users #1 and #2 in Figures 1 and 6), wherein each user is addressable within the internetwork at a respective global address (page 2, lines 14-21). Some users

of the internetwork are connected to the internetwork via a respective network address translation (NAT) firewall (page 3, lines 13-28). The server software is embodied on a computer-readable medium and, when executed by a computer, is operable to maintain a database of registered users, the database including respective global addresses corresponding to the registered users (page 7, lines 18-29). It is further operable to receive a call request from a calling user to establish a connection to exchange network packets with a called user, at least the called user being a registered user (page 8, lines 3-10 and steps 28-30 in Figure 3). It is further operable to detect whether a respective NAT firewall is in place between the called user and the internetwork (page 12, lines 1-3; page 12, line 25 to page 13, 8; and step 50 in Figure 7). If a respective NAT firewall is not in place between the called user and the internetwork, then the server software is further operable to transmit the called user's respective global address to the calling user (page 12, lines 3-5) so that the calling user can establish a network session for the connection with the called user by transmitting directly to the called user's respective global address (page 12, lines 5-7). If a respective NAT firewall is detected between the called user and the internetwork, then the server software is further operable to detect whether a respective NAT firewall is in place between the calling user and the internetwork (page 12, lines 10-11), and if a respective NAT firewall is not in place between the calling user and the internetwork, then to transmit the calling user's respective global address to the called user (page 12, lines 11-12) and the called user thereafter establishes a network session for the connection with the calling user by transmitting directly to the calling user's respective global address (page 12, lines 12-14).

None of the claims contain either a means plus function or a step plus function element.

NEW GROUNDS OF REJECTION TO BE REVIEWED

1. Whether claims 1, 3-9, 12, 14, 15, and 17 are unpatentable under 35 U.S.C.

§103(a) over Xu et al (US publication 2002/0114322) in view of Sultan (US 7,058,973).

ARGUMENT

Rejection of Claims 1, 3-9, 12, 14, 15, and 17 Under Xu et al in View of Sultan

Claims 1, 3-9 and 12

The new rejection argues that Xu et al discloses the claimed steps wherein if a respective NAT firewall is in place between the called user and the internetwork, then detecting whether a respective NAT firewall is in place between the calling user and the internetwork, and if a respective NAT firewall is not in place between the calling user and the internetwork, then 1) transmitting the calling user's respective global address to the called user, and 2) the called user establishing a network session for the connection with the calling user by transmitting to the calling user's respective global address. As explained in the original brief and in the specification, the claimed invention detects the presence of a NAT firewall at the called user and if one is present but no NAT firewall is present at the calling user, then the roles of the parties' computers are dynamically reversed for establishing the network session between the two computers. A full and fair consideration of Xu et al reveals that such a process is neither shown nor suggested.

Xu et al relates to use of an intermediary server for communicating between the clients. There is no teaching or suggestion of a method wherein a direct connection bypassing the intermediary server is established by a called party in response to receiving the global address of the calling party. Xu et al explains in paragraph [0013] of its background:

> Because of the wide spread use of NAT firewalls which typically provide both IP address translation and port translation of all frames sent from the private network to the Internet, what is needed is a system and method for establishing and maintaining Internet telephony conversations between two clients, both of which are located on private networks behind NAT firewalls.

In paragraph [0014]. Xu et al explains that its "method may be performed by an intermediary server with a public IP address on the Internet." As described in paragraph [0024], Xu et al employs a device for relaying real time media data between a first client and a second client, and the device comprises a network interface circuit. Paragraph [0025] states:

> Further, the media communication application may provide for driving the network interface circuit to send a third media datagram that includes media data originated by the second client using the first client network address as a destination network address of the third media datagram if the Internet Protocol address of the first client network address and the Internet Protocol address of the source network address are the same.

When these addresses are the same, then a NAT firewall is not present. Consequently, Xu et al continues to relay datagrams between the clients even when there is no NAT firewall at one of the clients. Since datagrams are always relayed by an intermediary device, there is no communication directly between clients, and there could not possibly be any dynamic reversal of the caller/callee roles for establishing the network session between the two computers. Thus, Xu et al fails to provide the teachings as alleged in the new rejection.

It is readily apparent from Figures 2a, 2b, and 2c that all datagrams to or from a client are exchanged with either a proxy server or the call control manager (CCM) server. Xu et al fails to exchange datagrams using direct addressing between the clients, which is precisely the advantage that is achieved by the present invention.

Sultan is cited as allegedly showing the use of global addresses in a NAT. Sultan fails to either teach or suggest direct session initiation between clients. Thus, Sultan fails to correct for the deficiencies in Xu et al. The combined references neither teach nor suggest detecting the presence of a NAT firewall at the called user and if one is present but no NAT firewall is present at the calling user, then dynamically reversing the

roles of the parties' computers to establish the network session between the two computers. Therefore, claim 1 and its dependent claims 3-11 are patentable thereover.

Claims 12 and 14

Independent claim 12 includes the same critical limitations as discussed above regarding claim 1. Therefore, claims 12 and 14 are likewise patentable over Xu et al and Sultan.

Claims 15 and 17

Independent claim 15 includes the same critical limitations as discussed above regarding claim 1. Therefore, claims 15 and 17 are likewise allowable over Xu et al and Sultan.

CONCLUSION

The final rejection has failed to establish a case of prima facia obviousness of any pending claims. The prior art relied upon in the final rejection neither teaches nor suggests the structure or function of the present invention nor does it provide any teaching which can obtain the significant advantages which are achieved by the present invention. Accordingly, the rejection dated March 21, 2007, should be reversed.

Respectfully submitted,

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CLAIMS APPENDIX

Claims 1, 3-12, 14, 15, and 17 now read as follows:

1. A method of connecting at least two users to exchange network packets via an internetwork, each user being addressable within said internetwork at a respective global address, and wherein some users of said internetwork are connected to said internetwork via a respective network address translation (NAT) firewall, said method comprising the steps of:

maintaining in a central server coupled to said internetwork a database of registered users, said database including respective global addresses corresponding to said registered users;

receiving a call request from a calling user to establish a connection to exchange network packets with a called user, at least said called user being a registered user;

detecting whether a respective NAT firewall is in place between said called user and said internetwork;

if a respective NAT firewall is not in place between said called user and said internetwork, then:

transmitting said called user's respective global address to said calling user; and

said calling user establishing a network session for said connection with said called user by transmitting to said called user's respective global address; and

if a respective NAT firewall is in place between said called user and said internetwork, then:

detecting whether a respective NAT firewall is in place between said calling user and said internetwork; and

if a respective NAT firewall is not in place between said calling user and said internetwork, then:

transmitting said calling user's respective global address to said called user; and

said called user establishing a network session for said connection with said calling user by transmitting to said calling user's respective global address.

3. The method of claim 1 further comprising the steps of:

if a respective NAT firewall is in place both between said called user and said internetwork and between said calling user and said internetwork, then relaying through said central server all packets exchanged between said calling user and said called user during said connection.

4. The method of claim 1 further comprising the step of:

receiving respective activation messages from each of said registered users at times when they become available for connecting to other users.

5. The method of claim 4 wherein a presence of a NAT firewall is detected after receiving said respective activation messages, and wherein said database stores data indicating whether said respective NAT firewall is detected for each respective active user or not.

6. The method of claim 5 wherein said central server transmits periodic messages to each respective active user for which a NAT firewall is detected in order to maintain an open network session.

7. The method of claim 1 wherein said central server transmits periodic

messages to each respective active user in order to maintain an open network session with each respective active user.

8. The method of claim 4 wherein said respective NAT firewalls translate between a respective global address of a respective user and a respective local equipment address of said respective user, wherein each of said activation messages includes a respective local equipment address for a respective user, and wherein said firewall detecting step is comprised of comparing said respective global address and said respective local equipment address, a NAT firewall being detected when said respective global address and said respective local equipment address do not match.

9. The method of claim 1 wherein said respective global addresses each include an IP address and port number.

10. The method of claim 1 wherein said database further includes a respective telephone number associated with each registered user, and wherein said call request identifies said called user by a respective telephone number.

11. The method of claim 10 wherein a telephone call is established over a public switched telephone network between said calling user and said called user simultaneously with said connection for exchanging network packets.

12. A central server coupled to an internetwork providing a real-time, network interconnection service for enabling at least two users to exchange network packets via said internetwork, wherein each user is addressable within said internetwork at a respective global address, and wherein some users of said internetwork are connected to said internetwork via a respective network address translation (NAT) firewall, said central server comprising a programming sequence for:

maintaining a database of registered users, said database including respective global addresses corresponding to said registered users;

receiving a call request from a calling user to establish a connection to exchange network packets with a called user, at least said called user being a registered user;

detecting whether a respective NAT firewall is in place between said called user and said internetwork;

if a respective NAT firewall is not in place between said called user and said internetwork, then transmitting said called user's respective global address to said calling user so that said calling user can establish a network session for said connection with said called user by transmitting directly to said called user's respective global address; and

if a respective NAT firewall is detected between said called user and said internetwork, then detecting whether a respective NAT firewall is in place between said calling user and said internetwork, and if a respective NAT firewall is not in place between said calling user and said internetwork, then transmitting said calling user's respective global address to said called user and said called user establishing a network session for said connection with said calling user by transmitting directly to said calling user's respective global address.

14. The central server of claim 12 further comprising ~~a~~ programming for:

when a respective NAT firewall is in place both between said called user and said internetwork and between said calling user and said internetwork, then relaying through said central server all packets exchanged between said calling user and said called user during said connection.

15. Server software for a real-time, network interconnection service for enabling at least two users to exchange network packets via an internetwork, wherein each user is addressable within said internetwork at a respective global address, and

wherein some users of said internetwork are connected to said internetwork via a respective network address translation (NAT) firewall, said server software embodied on a computer-readable medium and, when executed by a computer, operable to:

maintain a database of registered users, said database including respective global addresses corresponding to said registered users;

receive a call request from a calling user to establish a connection to exchange network packets with a called user, at least said called user being a registered user;

detect whether a respective NAT firewall is in place between said called user and said internetwork;

if a respective NAT firewall is not in place between said called user and said internetwork, then transmit said called user's respective global address to said calling user so that said calling user can establish a network session for said connection with said called user by transmitting directly to said called user's respective global address;

if a respective NAT firewall is detected between said called user and said internetwork, then to detect whether a respective NAT firewall is in place between said calling user and said internetwork, and if a respective NAT firewall is not in place between said calling user and said internetwork, then to transmit said calling user's respective global address to said called user and said called user thereafter establishing a network session for said connection with said calling user by transmitting directly to said calling user's respective global address.

17. The server software of claim 15 further operable to:

when a respective NAT firewall is in place both between said called user and said internetwork and between said calling user and said internetwork, then to relay through said server all packets exchanged between said calling user and said called user during said connection.

EVIDENCE APPENDIX

No evidence has been submitted under 37 CFR §§1.130, §§1.131, §§1.132, or otherwise.

RELATED PROCEEDINGS APPENDIX

There are no related proceedings and no corresponding decisions rendered.